

Madagascar Community-Based Integrated Health Program (CBIHP), locally known as MAHEFA, was a five-year (2011-2016), USAID-funded community health program that took place across six remote regions in north and north-west Madagascar (Menabe, SAVA, DIANA, Sofia, Melaky, and Boeny). The program was implemented by JSI Research & Training Institute, Inc. (JSI), with sub-recipients Transaid and The Manoff Group, and was carried out in close collaboration with the Ministry of Public Health, the Ministry of Water, Sanitation and Hygiene, and the Ministry of Youth and Sport. Over the course of the program, a total of 6,052 community health volunteers (CHVs) were trained, equipped, and supervised to provide basic health services in the areas of maternal, newborn, and child health; family planning and reproductive health, including sexually transmitted infections; water, sanitation, and hygiene; nutrition; and malaria treatment and prevention at the community level. The CHVs were selected by their own communities, supervised by heads of basic health centers, and provided services based on their scope of work as outlined in the National Community Health Policy. Their work and the work of other community actors involved with the MAHEFA program was entirely on a voluntary basis.

This brief is included in a series of fifteen MAHEFA technical briefs that share and highlight selected strategic approaches, innovations, results, and lessons learned from the program. Technical brief topics include *Behavior Change Empowerment, Community Radio Listening Groups, Community Score Card Approach, Chlorhexidine 7.1%/ Misoprostol, Champion Communes Approach, Community Health Volunteer Mobility, Emergency Transport Systems, Malaria, Community Health Volunteer Motivation, Family Planning & Youth, WASH, eBox, Community Health Financing Scheme, Information Systems for Community Health and NGO Capacity Building.*

Background

Community health programs have emerged as one of the most effective strategies to address human resources for health shortages while improving access to and quality of primary healthcare. Many developing countries have succeeded in deploying community health volunteers (CHVs) to identify, refer, and in many cases, treat illnesses, including malaria, at the household level. Because of their proximity to the community, CHVs can be particularly effective at health promotion for the prevention and prompt treatment of malaria in children and pregnant women.

MAHEFA Context

Although national reporting showed a decline in malaria cases (between 2003 and 2012), malaria still represents a serious health problem in Madagascar, with 100% of the population at risk¹. Children are particularly vulnerable to contracting malaria and are at greater risk for experiencing severe diseases or death as a result. In 2013, among children under five (CU5) in Madagascar, malaria was the eighth leading cause of morbidity, and the second leading cause of death². While hospital deaths attributed to malaria fell from 17% in 2003 to 10% in 2012, severe malaria remained among the top five causes of overall mortality³.

In line with the National Community Health Policy (*Politique Nationale de Santé Communautaire*, PNSC) and the National Malaria Control Program (NMCP), CHVs in Madagascar are expected to use rapid diagnostic tests (RDTs), to diagnose children and artemisinin-based combination therapy (ACT) to treat simple cases and refer children with danger signs to the nearest health center. CHVs are also expected to conduct malaria prevention activities.

The MAHEFA Approach

Under the MAHEFA program, 6,052 CHVs were trained, equipped, and provided with technical supervision on how to deliver family planning services to women and offer community case management services for CU5 at risk or suffering from diarrhea, pneumonia and malaria. All MAHEFA CHVs were trained in the comprehensive set of services to provide family planning and community case management services for CU5; this technical brief will address the CHV role in malaria case management while other topics are addressed in other MAHEFA technical briefs.

In line with Madagascar's PNSC, MAHEFA supported CHVs to do the following activities for malaria prevention and case management: 1) prevention through behavior change communication (BCC) strategies; 2) assessment of sick CU5 through RDT; 3) treatment with artemisinin-based combination therapy (ACT); and 4) promotion of care-seeking and referral to the nearest *Centre de Santé de Base* (CSB). Figure 1 below shows CHV's role in the management of malaria at the community level.

1. http://www.pmi.gov/docs/default-source/default-document-library/country-profiles/madagascar_profile.pdf?sfvrsn=14

2. *Annuaire Statistique*, 2013

3. *National Strategic Plan for Malaria*, 2013-2017



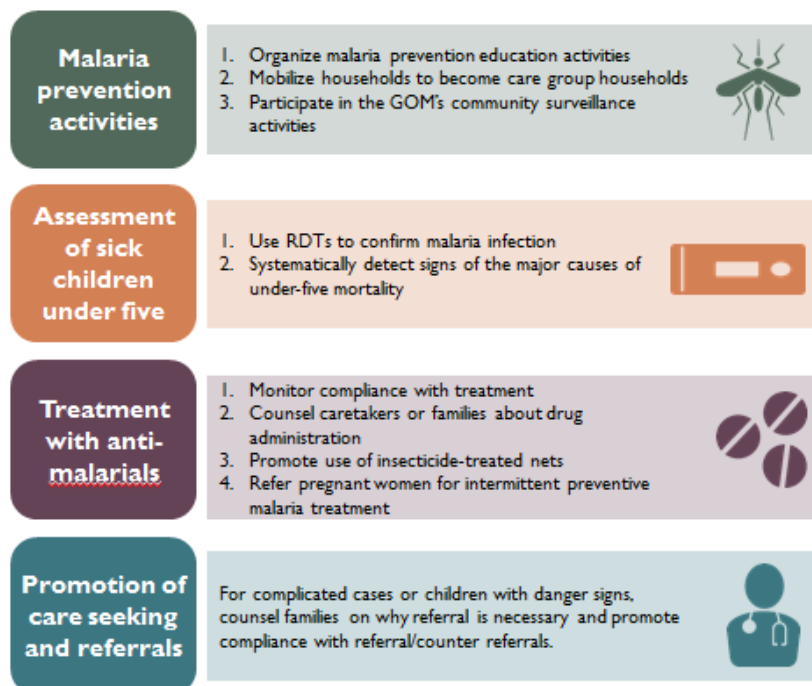
Key Activities

Over the last five years, the MAHEFA program has provided 6,052 CHVs with trainings, health supplies, and supportive supervision, enabling them to prevent, screen and treat simple cases of malaria in the six program regions.

1. Conducted malaria prevention activities.

The MAHEFA program trained CHVs and provided them with information, education and communication (IEC) materials to disseminate messages on malaria prevention. These messages were incorporated into counseling that took place during home visits and consultations in the CHV's health hut. To promote local dissemination of messages, MAHEFA CHVs used the Care Group approach (*ménage par-rains*) to mobilize households to practice positive health behaviors and adopt nearby families to teach them to do the same. For malaria, these health behaviors included sleeping under long-lasting insecticide-treated nets (LLITN), seeking prompt care for CU5 with fever and keeping areas around the house and village clean. CHVs also participated in malaria campaigns and events organized by the Government of Madagascar (GOM), including community malaria surveillance activities, malaria day, and annual campaigns to distribute LLITN. Additionally, MAHEFA developed malaria messages and broadcasted them via mass media outlets such as video, television, and radio. MAHEFA organized Radio Listening Groups (RLG). In these groups, a facilitator (often a CHV) gathered community members to listen to health broadcasts. Then the CHV led a discussion on understanding the messages in these broadcasts. These discussions required community members to reflect on the local situation related to that health topic and identify possible community solutions for improvement.

Figure 1. MAHEFA Intervention Model for the Management of Children with Signs of Malaria by CHVs



2. Assessed sick children. When parents brought CU5 with fever for consultation at CHV health huts, CHVs used RDTs to confirm malaria infection. CHVs also performed broader physical examinations, such as counting respiratory rates and checking for fever, dehydration, and other danger signs. In cases where CHVs experienced stock outs of RDTs due to shortages at the national level, they followed MOH guidelines to base treatment decisions on clinical evaluation and exclude other factors as the cause of a fever.

3. Treated and counselled sick children and their care takers. CHVs treated children determined to be positive for malaria with ACT. In cases of CU5 with danger signs, CHVs referred them to the nearest CSB. During each consultation, CHVs also (1) counseled caretakers or families about drug administration; (2) monitored compliance with treatment; (3) promoted the use of LLITN; and (4) referred pregnant women for preventive malaria treatment.

4. Encouraged care-seeking behaviors and made referrals to the nearest CSB. For complicated cases or children with danger signs, CHVs referred them to the nearest CSB using a referral slip or patient-held record. CHVs also counseled parents and caretakers about why the referral slip was so important. After examining and treating children, health workers at the CSBs provided the parents or caretakers with a counter-referral slip. The counter-referral slip included information on the outcome of the referral and provided an explanation for the follow-up treatment that the CHVs should perform in the home. Referrals and counter-referrals were tracked and the outcomes of referrals were discussed in supervisory visits and monthly meetings between CHVs and the CSB staff. CHVs made follow-up home visits as necessary.



Results

Figure 1 shows there was an increase in the number of people reached with key messages on malaria from FY 2013 through FY 2016. The table below shows CHVs' services in testing, treatment and referrals in the program area since the beginning of the program (2012-2016). In 2015, the last full year of the program, almost half (47%) of CU5 with fever who received a RDT from CHVs tested positive for malaria, a rate that is substantially lower than rates reported in previous years (82% in 2013 and 54% in 2014). This reduction could be due to two main factors. The first is that there was a large, MOH backed LLITN distribution campaign in 2013. This campaign

may have reduced infections in subsequent years because of its widespread reach and effective engagement strategy. The second is that over the last two years, CHVs and other community health actors have offered more malaria prevention activities in their districts. Lastly, it is important to note that the number of CU5 treated with ACT by CHVs is higher than the number of CU5 testing positive. This is partially explained by RDT shortages, and partially by the MOH reporting forms used. These forms do not specify type of treatment (e.g., ACT or paracetamol) nor do they distinguish CU5 who have tested positive vs. those who have not. For these reasons, the number of CU5 treated is higher than the number of CU5 testing positive.

Figure 2. Number of people who received key messages on malaria (2013-2016)



Figure 3. Number of children under 5 years who received malaria services by CHVs in the MAHEFA Program (2012-2016)

Children under five with fever tested with RDT	436,357
Children under five with fever tested positively with RDT	226,466
Children under 5 years treated with ACT within 24 hours of onset of fever	230,965
Children under 5 years with danger signs or complicated malaria cases referred to the CSB by the CHV	15,332

Challenges

Delay in seeking care. High malaria infection rates make it extremely important for the parents or caretakers to bring in sick CU5 to CHVs as soon as a fever appears (preferably within 24 hours). With regular reminders by CHVs through BCE efforts, more families have begun to adopt this practice; however, many families still fail to bring their children to see CHVs within 24 hours of a fever appearance.

Low use of LLITN. Despite efforts to raise awareness on the benefits of LLITN, some family members do not sleep under a mosquito net. Anecdotal information from CHVs reveals two main reasons: the first being a lack of mosquito nets for all household members, and the second being the perception that it is hotter to sleep under a mosquito net.

RDT stock outs and lack of clarity on diagnosis without RDT. Due to a lack of RDT kits and at times, inexperienced CHVs providing services, some CU5 received treatment for malaria without testing positive. In some sites, CHVs encountered CU5 with fever and immediately provided treatment using ACT.



Lessons Learned and Recommendations

Add malaria care as part of the CHV's mandate. Given the importance of getting a child with a fever correctly diagnosed and on treatment within a short time, CHVs are key links in the chain of healthcare. As demonstrated by the large numbers of CU5 with fever seen by MAHEFA CHVs, training, equipping and supervising CHVs to provide malaria services addresses an important community health need, particularly in remote and hard-to-reach areas. It is very important to monitor and supervise CHVs to make sure they follow protocols for diagnosis and treatment of malaria for CU5.

Use comprehensive BCC approaches to reach many people. MAHEFA found it effective to deliver key malaria messages through different media channels on a regular basis. Key messages included the importance of sleeping under mosquito nets, seeking immediate care for CU5 with fever, and destroying mosquito habitats. The messages were delivered through CHV consultations, public sessions, mass media outlets, print materials, and high visibility events. This integrated and comprehensive BCC approach contributed to increased use of effective malaria prevention and treatment activities.

Support CHVs with health products to avoid stock out of RDT and ACT. Two main ways to avoid stock out of needed supplies include improving the RDT supply chain from the central to the community level and ensuring that the national guidelines on malaria diagnosis and treatment include guidance on what to do in the absence of RDT. Community health programs can ensure that CHVs and other community health actors understand this guidance while also emphasizing the importance of testing with RDT when it is available.

Increase public-private partnerships to contribute to malaria efforts. When possible, public private partnerships should be pursued to bolster efforts and ensure comprehensive coverage of malaria activities. For example, in the Boeny region, MAHEFA engaged in a partnership with ExxonMobil to carry out malaria prevention and treatment activities jointly organized by CSB and CHVs involving 18 CSBs across two districts of the program area. This partnership created opportunities for CHVs and CSB personnel to collaborate closely and frequently, in their efforts to provide malaria treatment and prevention services to community members.

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